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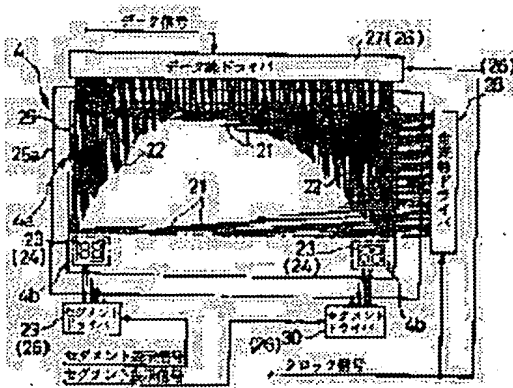
(54) SLOT MACHINE

(57)Abstract:

PROBLEM TO BE SOLVED: To display characters, pictures and lines on the back surface of a front surface panel or near the back surface by a dot pattern on an information display panel, to make even patterns or the like on the back surface side of the panel visible through the information display panel provided with light transmissivity and to improve the degree of freedom and versatility of display.

SOLUTION: The information display panel 4 provided with the light transmissivity is constituted of a glass substrate 25a and the EL element 25 of a thin film type formed on the back surface and the information display panel is provided with a matrix display part 4a capable of display by the dot pattern through the dots of many rows and many columns capable of emitting light and a segment display part 4b capable of displaying the numerals of two digits. The matrix display part 4a is constituted of many scanning electrodes 21, many data electrodes 22 and an insulation layer or the like for covering the surface of the electrodes. The matrix

display part 4a is drive-controlled and various explanation information, valid winning lines, animations, the pictures, the lines and plural lamp marks for substituting LED lamps, etc., are displayed.



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CLAIMS

[Claim(s)]

[Claim 1] The slot machine characterized by preparing an information-display panel with the light-transmission nature which equipped two or more pattern displays with the matrix display section which can be displayed by the dot pattern through the dot of multi-line two or more trains near the tooth back of the aforementioned front panel, or the tooth back in the slot machine equipped with the pattern display means which can scrolling display a pattern, respectively, and the transparent front panel arranged in the front-face side of these patterns display and its circumference section.

[Claim 2] The slot machine according to claim 1 with which the aforementioned information-display panel is characterized by being a transparent EL (electroluminescence) panel.

[Claim 3] The slot machine according to claim 1 or 2 characterized by preparing the drive control means which carry out drive control of the information-display panel so that the pattern containing any of a character, a pictorial map, or a line drawing which were set up beforehand they are may be displayed by the dot pattern.

[Claim 4] The pattern display means [two or more pattern displays] which can scrolling display a

pattern, respectively. The transparent front panel arranged in the front-face side of these patterns display and its circumference section. It is the slot machine equipped with the above, and is characterized by preparing an information-display panel with the light-transmission nature which formed in one the matrix display section which can be displayed by the dot pattern, and the segment display through the dot of multi-line two or more trains near the tooth back of the aforementioned front panel, or the tooth back.

[Claim 5] The matrix display section of the aforementioned information-display panel is a slot machine given in any of the claims 1-4 characterized by the position corresponding to two or more pattern displays constituting two or more winning-a-prize lines from a dot pattern possible [a display] they are.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] this invention relates to a slot machine. Especially, the information-display panel which can be displayed by the dot pattern is prepared in the tooth-back side of a front panel through the dot of multi-line two or more trains, and it is related with what displayed the winning-a-prize line, the pictorial map, the lamp mark, etc. by this information-display panel.

[0002]

[Description of the Prior Art] After the common slot machine of 3 reel formulas throws in the medal of 1-3 sheets, when rotating three rotation reels by operation of a start lever and stopping rotation of a reel by operation of a stop button When winning a prize or HAZURE is judged and a prize is won with the combination of the halt pattern on 1 validated according to medal number of sheets, or two or more winning-a-prize lines, the medal of number of sheets according to the classification of a pattern is paid out to a game person. For example, on the slot machine 100 of drawing 22 , various drops, display lamps, etc. are prepared so that it may be visible from a front panel.

[0003] The pattern display windows 103a-103c are formed in the center section of the front panel 103, and three patterns by the side of the front face of two or more patterns of the periphery section of three rotation reels 105-107 in the tooth-back side of a front panel 103 are in sight from a transverse plane. 12 bonus lamps 110 turned on at the time of winning a prize, such as a regular bonus (hit) and a big bonus (great success), and the display lamp of the replay lamp 111 grade

which directs that replay is possible are prepared in the pattern display windowa [103]-103c bottom. In addition, a lamp 110,111 consists of a Light Emitting Diode lamp.

[0004] a front panel -- 103 -- the lower right -- a corner -- and -- the lower left -- a corner -- **** -- coming into effect -- having had -- winning a prize -- a line -- corresponding -- three -- a ** -- a pattern -- combination -- "-- per -- " -- "-- great success -- " -- having won a prize -- the time -- a credit -- ***** -- paying out -- a medal -- number of sheets -- etc. etc. -- two -- a figure -- seven -- a segment -- a number -- displaying -- seven -- a segment --

[0005] As opposed to nine patterns which are from the 3 train x3 line displayed through the pattern display windows 103a-103c on the front-face side of a front panel 103 on the other hand The winning-a-prize line L1 for 1 medals of the middle which becomes effective by the medal injection of one sheet, two winning-a-prize lines L2 and L3 for 2 medals which become effective additionally by the medal injection of two sheets, and the winning-a-prize lines L4 and L5 for 3 medals which become effective additionally by the medal injection of three sheets are printed, respectively. Moreover, the line display lamp turned on when a pattern is equal to the line which corresponds when a corresponding line is validated is prepared in the left-hand side of each line.

[0006] By the way, game nature is raised recently, or in order to make winning a prize easy to distinguish, an auxiliary display means is prepared in a front panel, and the technology which displays a line and a figure through this auxiliary display means is proposed variously. For example, while arranging 3 sets of liquid crystal shutters to a seriate and displaying the combination pattern of winning a prize on the anterior of the pattern display window corresponding to each rotation reel through a display window at the time of each game end, it is made to make only three winning-a-prize patterns on a winning-a-prize line have expressed to the pattern display window as 3 reel formula slot machine given in JP,4-220276,A by switching opaquely the liquid crystal shutter corresponding to remaining six patterns which are not winning a prize.

[0007] On 9 reel formula slot machine of a publication, to JP,11-99240,A The rear face of the front panel in which the pattern display window was formed is made to correspond to a total of three length, three width, and eight winning-a-prize lines of two slant. Thin band-like EL tape (electroluminescence tape) is fixed, respectively, EL tape of the winning-a-prize line validated for every medal injection is displayed, and it is made to indicate the EL tape of the winning-a-prize line which won a prize by blink at the time of each game end.

[0008]

[Problem(s) to be Solved by the Invention] Although the pattern which closes a liquid crystal shutter and has not won a prize can be hidden on the slot machine of JP,4-220276,A, since the winning-a-prize line which was not validated is also always displayed and many winning-a-prize lines are always displayed, the pattern of each rotation reel needs to form separately a bird clapper and various display lamp hard to see, a drop, etc., and there are problems; like composition is complicated.

[0009] Only the validated winning-a-prize line can be displayed on the slot machine of JP,11-99240,A. However, since the pattern display window formed in the front panel divides and it is indicated by fragmentation by the crosspiece, each winning-a-prize line cannot be displayed as a winning-a-prize line which stands in a row continuously. Other display lamps, 7 segment drops, etc. have problems, like there is the need of preparing separately.

[0010] Thus, with the technology by which the conventional proposal is made, although there was novelty in the device to be used, it specializes in the purpose of a display, and the content, and it was tended to **** a game person bored, and the problem of being scarce was in versatility. The purpose of this invention is offering the slot machine which can be displayed on an information-display panel by the dot pattern for the character and pictorial map of light-transmission nature, or a

diagram near the tooth back of a front panel, or the tooth back.

[0011]

[Means for Solving the Problem] The slot machine of a claim 1 prepares an information-display panel with the light-transmission nature which equipped two or more pattern displays with the matrix display section which can be displayed by the dot pattern through the dot of multi-line two or more trains near the tooth back of a front panel, or the tooth back in the slot machine equipped with the pattern display means which can scrolling display a pattern, respectively, and the transparent front panel arranged in the front-face side of these patterns display and its circumference section. In addition, the LCD formula pattern display means which indicates the pattern by scrolling is employable as the reel formula pattern display means or liquid crystal display which displays a pattern by two or more reels as a pattern display means. Moreover, two or more information-display panels may be prepared in piles.

[0012] The information-display panel prepared near the tooth back of a front panel, or the tooth back For example, it consists of panels with the light-transmission nature which made the transparent EL (electroluminescence) element etc. the subject and constituted it for which light can be emitted. Only the winning-a-prize line validated by medal injection by the matrix display section which can be displayed by the dot pattern through the dot of multi-line two or more trains which can emit light in a predetermined color can be displayed, or the message of two or more characters, a pictorial map, and a line drawing can be displayed.

[0013] for example, the matrix display section of an information-display panel -- characters, such as explanatory information and a message, and per ["] -- " -- information displays, such as line drawings, such as a winning-a-prize line validated according to various pictorial maps and medal injection number of sheets which heap up a game in "great success" and the "reach state", can be displayed by the dot pattern And since an information-display panel is the thing of light-transmission nature, it can see the pattern of a ground including the pattern displayed on the pattern display through the information-display panel etc. That is, the display information on an information-display panel, the pattern of a ground, etc. can be piled up and seen.

[0014] Here, when an information-display panel is a transparent EL (electroluminescence) panel (claim 2), an EL element emits light by excitation luminescence when impressing electric field to the fluorescent substance, and emits light in the color tone according to the kind of fluorescent substance by impressing direct current voltage or alternating voltage among the ends of the luminous layer which contains fluorescent substances, such as ZnS (zinc sulfide). When the drive control means which carry out drive control of the information-display panel are prepared so that the pattern containing any of a character, a pictorial map, or a line drawing which were set up beforehand they are may be displayed by the dot pattern (claim 3), these drive control means control an information-display panel.

[0015] The slot machine of a claim 4 prepares an information-display panel with the light-transmission nature which formed in two or more pattern displays in one the matrix display section which can be displayed by the dot pattern, and the segment display through the dot of multi-line two or more trains near the tooth back of a front panel, or the tooth back in the slot machine equipped with the pattern display means which can scrolling display a pattern, respectively, and the transparent front panel arranged in the front-face side of these patterns display and its circumference section. Here, about the composition of a pattern display means, it is the same as that of the case of a claim 1, and two or more information-display panels may be prepared in piles.

[0016] The information-display panel prepared near the tooth back of a front panel or the tooth back consists of panels which have the light-transmission nature which has a transparent EL (electroluminescence) element etc. like the case of a claim 1 and for which light can be emitted.

Although the information-display panel contains the matrix display section and the segment display, about an operation of the matrix display section, it is the same as that of an operation of the matrix display section of a claim 1. moreover, a segment display -- per ["] -- " -- since two or more digits can be displayed for the number of sheets of the credit medal paid out as a credit etc. in 7 segment numbers at the time of "great success", the display control which displays two or more digits simplifies, and 7 segmental-die drop provided so that it might be conventionally visible from a front panel can be omitted

[0017] Moreover, since the lamp mark as an alternative of a Light Emitting Diode lamp can be displayed on the matrix display section of an information-display panel when constituted possible [a display of the lamp mark as an alternative of a Light Emitting Diode lamp] as a segment display, a Light Emitting Diode lamp can be omitted and composition can be simplified.

[0018] When the matrix display section of a display panel is constituted from a dot pattern possible [a display] by the position corresponding to two or more pattern displays (claim 5), two or more winning-a-prize lines Only the winning-a-prize line validated according to injection number of sheets for every medal injection It is made to correspond to two or more pattern displays, it can be made to be able to display by the dot pattern, or the winning-a-prize line which is not validated is eliminated, a winning-a-prize line can be held in the elimination state at the time of each game end, and a winning-a-prize line can be displayed only when the display is required.

[0019]

[Embodiments of the Invention] Hereafter, the gestalt of operation of this invention is explained based on a drawing. This operation gestalt is an example at the time of applying this invention to the slot machine of 3 reel formulas. This slot machine is the thing of composition of paying out a medal according to winning a prize by the combination of three patterns corresponding to the winning-a-prize line when rotating three rotation reels by operating a start lever, after throwing in the medal, operating a stop button, and stopping a rotation reel.

[0020] it is shown in drawing 1 and drawing 2 -- as -- the height direction among main part frame 1a of a slot machine 1 -- the middle -- the middle corresponding to the game book soma of the section -- immediately, inside the front panel 2 of the glass shape of the transparent synthetic resin of frame section 1b or a rectangle is arranged perpendicularly, and the information-display panel 4 is arranged at the tooth-back side of this front panel 2 the middle -- three rotation reels 5-7 arranged in right and left approach a middle panel 3, it is arranged independently possible [rotation] by the method of the back of frame section 1b (back), respectively, and a rotation drive is individually carried out in the predetermined direction, respectively with the reel drive motors 51-53 (refer to drawing 5)

[0021] Two or more kinds of 21 patterns of "7", "BAR", a "watermelon", a "plum", a "bell", etc., etc. are printed every predetermined interval by the peripheral face of each aforementioned rotation reels 5-7 at one seriate. The portions as which the rotation reels 5-7 and two or more patterns of the peripheral face, the reel drive motors 51-53, etc. are equivalent to a pattern display means, and display three patterns (three patterns which are in sight from the pattern display windows 3a-3c) of the front end portion of each rotation reels 5-7 are each pattern displays 5a-7a. Here, a winning-a-prize line is displayed on the below-mentioned information-display panel 4. 7 segmental-die drop which displays a Light Emitting Diode display lamp and two 7 segment digits is not formed, but the display instead of a Light Emitting Diode display lamp and the display of two 7 segment digits are displayed through the information-display panel 4.

[0022] As shown in drawing 3 and drawing 4 , the information-display panel 4 of the light-transmission nature which has EL element 25 is arranged in the rear face (tooth back) of a front panel 2, and it is fixed to it in [these front panels 2 and the information-display panel 4] one. While

matrix display section 4a which can be displayed by the dot pattern is prepared in the field of most except the soffit portion of the information-display panel 4, segment display 4b is prepared in the lower right corner and lower left corner of the information-display panel 4, respectively. In addition, all the fields of EL element 25 are fields which can be displayed from a front face through frame section 1c.

[0023] The information-display panel 4 consists of glass-substrate 25a with the transparent thickness of 1 or about 2mm, and transparent EL element 25 of a thin film form which fixed on the rear face (tooth back) of this glass-substrate 25a. This EL element 25 consists of a wrap insulating layer etc. the front face of the luminous layer which makes fluorescent substances, such as ZnS, a principal component, the electrodes which were fixed to the both sides, and these electrodes. In EL element 25 in matrix display section 4a, many scanning electrodes 21 of the transparent longitudinal-direction sense of a book are formed in the tooth back of a luminous layer, many data electrodes 22 of the transparent vertical direction sense of a book are formed in the front face of a luminous layer, and the front face of these scanning electrode 21 and the front face of the data electrode 22 are being worn by the transparent insulating layer, respectively. In addition, the scanning electrode 21 and the data electrode 22 consist of transparent electric conduction films, such as ITO (indium oxide and tin), respectively.

[0024] In matrix display section 4a, many intersections [a majority of] (dot which can emit light) of the scanning electrode 21 and the data electrode 22 are formed in the resolution of for example, 200dpi in the shape of [of a line a large number train] a matrix. If electric field are impressed to the aforementioned intersection through the scanning electrode 21 and the data electrode 22, the dot-like portion of a luminous layer will carry out excitation luminescence, and will emit light in yellow orange. For example, the scanning electrode 21 is made into the earth side, the data electrode 22 is made into a direct-current pulse impression side, and drive control of many data electrodes 22 is carried out based on an indicative data. In this case, while making it ground many scanning electrodes 21 one by one to set at predetermined minute time, a character string, a pictorial map, a line drawing, etc. which were set up beforehand can be displayed in a dot pattern by impressing a direct-current pulse to that from which it was chosen of many data electrodes 22 for setting at predetermined minute time synchronizing with this one by one. In this way, a character string, 1 or two or more pictorial maps, animation (animation), the winning-a-prize line L1 - L5 grade can be displayed by the dot pattern of yellow orange.

[0025] In each aforementioned segment display 4b, as shown in drawing 4, 14 transparent grounding electrodes 23 corresponding to two 7 segment digits are fixed to the tooth back of the same luminous layer as the above. 14 transparent data electrodes 24 which counter 14 grounding electrodes 23 are fixed to the field of another side of the luminous layer. The front face of these electrodes 23 and 24 is being worn by the transparent insulating layer, and the display of it in yellow orange is attained in 7 segment numbers in two digits by impressing a direct-current pulse to 14 data electrodes 24 alternatively.

[0026] Next, the display drive circuit 26 (equivalent to drive control means) of matrix display section 4a and segment display 4b is explained. As shown in drawing 4 and 5, the edge of many scanning electrodes 21 is connected to the scanning-line driver 28, the edge of many data electrodes 22 is connected to the data-line driver 27, a data signal is supplied to the data-line driver 27 from a control unit 35, and the clock signal for a synchronization is supplied to the data-line driver 27 and the scanning-line driver 28. The segment drivers 29 and 30 are connected to the grounding electrode 23 and the data electrode 24 of each segment display 4b, respectively, and a segment status signal is supplied to each segment drivers 29 and 30 from a control unit 35.

[0027] Next, the control system of this slot machine 1 is explained. As shown in the block diagram

of drawing 5, the control unit 35 consists of the microcomputer containing CPU36, and ROM37 and RAM38, an input interface 39, an output interface 40, drive circuits 41-45, etc. Bed switch 11a which is interlocked with the medal injection sensor 50 and the bed button 11, and operates, start switch 13a interlocked with the start lever 13, the stop switches 14a-16a interlocked with the stop buttons 14-16, respectively, settlement-of-accounts switch interlocked with settlement-of-accounts button 12 12a, etc. are connected to the input interface 39.

[0028] The drive circuit 45 grade for the loudspeaker 19 which outputs drive circuit 8a which drives the drive circuit 44 for the drive circuits 41-43 for driving the display drive circuit 26 and the reel drive motors 51-53 which carry out drive control of the information-display panel 4, and expenditure equipment 54, and a fluorescent lamp 8, and various kinds of sounds is connected to the output interface 40. In addition, the sign 10 in drawing shows medal input port, and a sign 18 shows a medal eccentric pan.

[0029] Two or more control programs which control a device are stored in ROM37 so that the function as the below-mentioned various means 60-69 may be attained, and the various indicative datas shown in drawing 6 are stored in display data memory 37a of ROM37. The game explanation indicative data as which these indicative datas display the game explanation explaining the method of a game by the character string before a game start (refer to drawing 9), The winning-a-prize line indicative data which displays the winning-a-prize lines L1-L5 validated according to the injection number of sheets of a medal (refer to drawing 7), The lamp mark indicative data which displays lamp mark M1a which shows the lamp marks M1-M3 and putting-out-lights state which it is the lamp mark replaced with a Light Emitting Diode lamp, and show a lighting state (refer to drawing 7), The digital display data (refer to drawing 7) which display seven segments of two digits, the reach mark indicative data which displays the reach mark which shows a reach state (refer to drawing 15), The message indicator data for displaying the great success mark indicative data (referring to drawing 19) which displays the great success mark which shows great success, the animation indicative data (referring to drawing 18) for two or more screens which display animation (animation), and other required messages etc. are memorized.

[0030] Next, the functional block diagram of drawing 8 explains the various functions attained through two or more control programs beforehand stored in the control unit 35. The random-number-generation means 60, the random number lottery means 61, the lottery result judging means 62, the halt pattern selection means 63, the pattern halt control means 64, the halt pattern judging means 65 and also the display information-storage means 66, the display information selection means 67, and the information-display control means 68 are formed. The random-number-generation means 60 generates the random number for a lottery, when three rotation reels 5-7 begin rotation by operation of the start lever 13.

[0031] The random number lottery means 61 casts lots based on the random number generated with the signal and the random-number-generation means 60 from start switch 13a. It judges whether the lottery result judging means 62 judges the lottery result in the random number lottery means 61, and suggests winning a prize, suggests the shift to a big bonus, or suggests HAZURE. The halt pattern selection means 63 chooses as the pattern display windows 3a-3c the combination of the pattern which indicates by halt based on the judgment result in the lottery result judging means 62 at the time of a halt of the rotation reels 5-7.

[0032] For example, the combination of patterns, such as "a diamond, a diamond, a diamond", "a watermelon, a watermelon and a watermelon", and "a cherry, -, -" (the left end rotation reel 5 is made to indicate the pattern of a "cherry" by halt, and other rotation reels 6-7 are made to indicate the arbitrary patterns by halt), is chosen. When suggesting the shift to a big bonus, the combination of the pattern of "7, 7, 7" is chosen. When suggesting the shift to a regular bonus, the combination

of the pattern of "BAR, BAR, and BAR" is chosen. This regular bonus is the game mode which can perform the game from which a game person can usually gain more medals as compared with a game until predetermined conditions are attained.

[0033] A big bonus is the game mode which can perform a regular bonus until predetermined conditions are attained, and becomes possible [gaining much more many medals] by performing a regular bonus two or more times. The pattern halt control means 64 stop the rotation reels 5-7 so that the combination of the pattern chosen with the halt pattern selection means 63 and the combination of the pattern by which controls each reel drive motors 51-53, and it is indicated by halt into pattern display window 3a - 3c based on the stop signal from the stop switches 14a-16a may serve as a winning-a-prize mode or a mode of HAZURE.

[0034] According to the number of sheets of an expenditure medal based on the combination of the halt pattern in the time of winning a prize, all the rotation reels 5-7 stop, and the halt pattern judging means 65 judges whether the combination of the pattern by which it is indicated by halt on the effective winning-a-prize line L1 - L5 constitutes a winning-a-prize mode, the reservoir number of sheets of a credit medal is increased, or drives the expenditure actuator 54 and pays out a medal.

[0035] The display information-storage means 66 consisted of display data memory 37a etc., and has memorized the various indicative datas it is indicated to drawing 6 that mentioned above. The display information selection means 67 receives an injection signal from the medal injection sensor 50, receives a bed signal from bed switch 11a, receives the judgment result signal of being a winning-a-prize mode from the halt pattern judging means 65, reads alternatively the indicative data which should be displayed on the information-display panel 4 from the display information-storage means 66, and outputs it to the information-display control means 68. Since the information-display control means 68 output an indicative data to the display drive circuit 26, the various patterns corresponding to the signal received from the display drive circuit 26 are displayed on the information-display panel 4 by the dot pattern.

[0036] Next, the operation of the slot machine 1 explained above is explained. A game explanation indicative data is read in the standby state before a game start, and it is displayed on the information-display panel 4. For example, as shown in drawing 9, operation explanatory information, such as operation, is displayed [medal / one / lever / 2 start / a 1-3 sheet injection and] on matrix display section 4a of the information-display panel 4 one by one in operation and 3 stop button. At this time, since all [the unnecessary display of the winning-a-prize lines L1-L5, the lamp marks M1-M3, M1a, etc., etc.], a game person can see this operation explanatory information clearly quickly. Moreover, the animation for standby states is prepared, and it may change to a game explanation indicative data, and you may make it display.

[0037] When a game person throws the medal of the 1st sheet into medal input port 10, as shown in drawing 10, the winning-a-prize line L1 for 1 medals is thickly displayed with the line breadth of 4 dots. Since the game start is possible at this time, the message "start O.K." is displayed simultaneously. When a game person throws in the medal of the 2nd sheet, as shown in drawing 11, two winning-a-prize lines L2 and L3 for 2 medals add, for example, it emphasizes with the line breadth of 4 dots, and is displayed thickly.

[0038] Furthermore, when the medal of the 3rd sheet is thrown in, as shown in drawing 12, the winning-a-prize lines L4 and L5 for three medals add, for example, it emphasizes with the line breadth of 4 dots, and is displayed thickly. Next, if the start lever 13 is operated, the reel drive motors 51-53 will drive simultaneously, and as shown in drawing 13, the rotation reels 5-7 will rotate to a predetermined hand of cut simultaneously. In addition, in the pattern displays 5a-7a, a downward long arrow shows the rotation state of a reel. if the line breadth of the winning-a-prize lines L1-L5 contracts to 2 dots at this time -- the display contrast of the winning-a-prize lines L1-L5

-- being thin (a narrow dotted line illustrating) -- it becomes legible about grounds, such as a pattern which moves the pattern displays 5a-7a

[0039] Next, when the left-hand side stop button 14 is operated first, as shown in drawing 14, three patterns displayed on pattern display 5a of the rotation reel 5 can be checked through pattern display window 3a. When the specific pattern (for example, "7") related to winning a prize exists among three indicator-chart handles at this time, only the winning-a-prize line L1 relevant to the specific pattern is displayed. Next, when it changes into the reach state to which "7, 7" were equal corresponding to the winning-a-prize line L1 as [show / when the stop button 15 is operated to desired timing / in drawing 15], it replaces with a fluorescent lamp 8, the fluorescent lamp 9 of a complementary color system is turned on, and a blink indication of the reach mark M5 which consists of a character string and a line drawing is given.

[0040] In this way, a reach state can be clearly known through the display of the reach mark M5, a game can be heaped up, and it can check whether it relates to which winning-a-prize line L1. As shown in drawing 16, you may be made to indicate the flash plate mark M6 covering the left end pattern "7" and the central pattern "7" which changed into the reach state here by blink. Thus, by directing, it becomes possible to express dynamically the pattern on the reel which is originally a still picture. Moreover, you may make it display the animation A1 of the woman who winks while shaking a hand so that it may correspond to pattern display window 3c of the right-hand side which has not yet been determined as shown in drawing 17. Furthermore, you may make it an animal "a little dog" display the animation A2 which runs leftward from the right, as shown in drawing 18.

[0041] When it finally changes into the great success state to which "7, 7, 7" gathered on the winning-a-prize line L1 as [show / when the right end stop button 16 is operated / in drawing 19] In order to show having shifted to the big bonus, lamp mark M1a (lamp mark which shows un-switching on the light) and the lamp mark M1 (lamp mark which shows lighting) of 12 big bonuses are displayed, and the great success mark M7 is displayed by blink. In this way, the great success mark M7 can show a great success state clearly, a game can be made interesting, and game nature can be raised. Moreover, it turns out clearly to which winning-a-prize line L1 it relates. In addition, as shown in drawing 20, you may indicate the flash plate mark M8 by blink so that three patterns "7, 7, 7" which changed into the great success state may be surrounded.

[0042] By the way, when three stop buttons 14-16 are operated, even if it is a time of the combination of the pattern on each winning-a-prize line L1 - L5 being HAZURE, at the time of a reach eye, the winning-a-prize line L4 which became a reach eye as shown in drawing 21 is displayed. Moreover, when it can replay, you may make it turn on the lamp mark M2 which directs the winning-a-prize lines L1-L5 which became the replay, and replay.

[0043] Near the tooth back of a front panel 2, rather than three pattern displays 5a-7a thus, ahead Since the information-display panel 4 which has light-transmission nature near the front face of a middle panel 3 was formed and matrix display section 4a which can be displayed by the dot pattern was prepared through the dot of the a large number line a large number train which can emit light on the information-display panel 4 Display the winning-a-prize lines L1-L5 validated by the medal injection by this matrix display section 4a, or Various animation A1 and A2, explanatory information, a message and the reach mark M5, great success marks M7, etc. can be displayed, a game can be made interesting, and can be heaped up, and the performance of a slot machine 1 can be raised. Moreover, since information beforehand set up besides the aforementioned various information, such as a pictorial map, a character string, and a line drawing, can be displayed on matrix display section 4a by the dot pattern, it excels in versatility and flexibility.

[0044] And since it has light-transmission nature, even if the display is performed by the information-display panel 4, the information-display panel 4 lets this information-display panel 4

pass, and it can pile up and see the display information by the information-display panel 4, and the information on a ground, without grounds inscribed on the pattern of the pattern displays 5a-7a or the front face of a middle panel 3, such as other pictures and a character, disappearing. And since only information required for matrix display section 4a can be displayed, the check of the display information by the game person simplifies. Furthermore, since the lamp marks M1-M3 and M1a which are replaced with the display lamp of a Light Emitting Diode form prepared in the middle panel 3 are displayed on matrix display section 4a of the information-display panel 4, two or more Light Emitting Diode display lamps can be omitted, and composition can be simplified.

[0045] the information-display panel 4 -- segment display 4b -- preparing -- the segment display 4b -- per ["] -- " -- since it constituted so that two digits might be replaced with the numerical indicator of seven segment type and the number of sheets of the credit medal paid out as a credit might be displayed at the time of "great success", 7 segment type numerical indicator can be omitted, composition can be simplified, and the display control which displays a number can also be simplified

[0046] Since the information-display panel 4 is the composition which fixed EL element 25 to transparent glass-substrate 25a, the information-display panel 4 can be constituted in a thin shape, and since it can be made to display, a display control can be simplified only by impressing the pulse voltage corresponding to an indicative data to EL element 25. Moreover, since the information-display panel 4 was arranged in the tooth-back side of a front panel 2, the information-display panel 4 can be protected by the front panel 2.

[0047] this invention is not limited to the operation gestalt explained above, and can be variously changed in the range which does not deviate from the meaning of this invention.

1) Although the case where the lamp marks M1-M3 instead of a display lamp and M1a were displayed on matrix display 4a by the dot pattern was made into the example and explained, 1 or two or more lamp marks instead of a display lamp may be prepared in a segment display, and you may constitute so that each lamp mark may be indicated by the segment.

[0048] 2) It may replace with the aforementioned rotation reels 5-7 or the reel drive motors 51-53, three liquid crystal displays corresponding to the pattern displays 5a-7a may be prepared, respectively, and a display-control means by which the pattern can be indicated by scrolling, respectively may be prepared in these liquid crystal displays. But three liquid crystal displays may be constituted as a big liquid crystal display of one breadth, and three displays equivalent to the pattern displays 5a-7a may be prepared in the screen.

[0049] 3) The luminous layer of aforementioned EL element 25 may be constituted from fluorescent substances other than ZnS (zinc sulfide), and green, red, blue, etc. may constitute it possible [luminescence] in the luminescent color peculiar to a fluorescent substance. Moreover, the EL element of three sheets which can emit light to the three primary colors (RGB) of light may be included in an information-display panel, and a color picture may be constituted possible [a display]. 4) Of course, this invention can be applied to various slot machines, such as a slot machine of 9 reel formulas.

[0050]

[Effect of the Invention] Since according to invention of a claim 1 the information-display panel which equips the tooth back or the section near the tooth back of a front panel with the matrix display section which can be displayed by the dot pattern through the dot of multi-line two or more trains, and has light-transmission nature in it was prepared as the column of an operation explained Only the winning-a-prize line validated by the medal injection of two or more winning-a-prize lines can be displayed, or the message of two or more characters, a pictorial map, and a line drawing can be displayed by the dot pattern. Therefore, a game person can see a reel and various information

clearly, without moving a visual axis, and can concentrate them on a game more.

[0051] for example, the matrix display section of an information-display panel -- characters, such as explanatory information and a message, and per ["] -- " -- information displays, such as line drawings, such as a winning-a-prize line validated according to various pictorial maps and medal injection number of sheets which heap up a game in "great success" and the "reach state", can be displayed consequently, the versatility and flexibility of an information display are boiled markedly, and can be raised, and the fun and performance of a slot machine can be improved

[0052] And since an information-display panel is the thing of light-transmission nature, it can see the pattern of a ground including the pattern displayed on the pattern display etc. That is, the display information on an information-display panel, the pattern of a ground, etc. can be piled up and seen.

[0053] the fluorescent substance prepared in the EL element when an information-display panel was a panel which fixed EL (electroluminescence) element to the transparent glass substrate here (claim 2) -- electric field -- impressing -- excitation luminescence -- it can display -- an information-display panel -- a thin shape -- compact -- it can constitute -- drive control of an information-display panel -- it also becomes possible to display an animation on an information-display panel by how

[0054] Moreover, when preparing the drive control means which carry out drive control of the information-display panel so that the pattern containing any of a character, a pictorial map, or a line drawing which were set up beforehand they are may be displayed by the dot pattern (claim 3), the various patterns set up beforehand can be displayed by the dot pattern.

[0055] Since the information-display panel with the light-transmission nature which formed the matrix display section and the segment display in the tooth back or the section near the tooth back of a front panel of a slot machine in one was prepared according to invention of a claim 4, about this matrix display section, the same effect as a claim 1 is done so. and the aforementioned segment display -- for example, per ["] -- " -- two or more digits, such as number of sheets of the credit medal paid out at the time of "great success", can be displayed in 7 segment numbers, luminescence drive control of two or more of these digits simplifies, and 7 segment drop conventionally formed in the middle panel can be omitted

[0056] When the aforementioned matrix display section is constituted from a dot pattern possible [a display] by the position corresponding to two or more pattern displays (claim 5), two or more winning-a-prize lines Only the winning-a-prize line validated according to injection number of sheets for every medal injection It is made to correspond to two or more pattern displays, it can be made to be able to display by the dot pattern, or the winning-a-prize line which is not validated is eliminated, a winning-a-prize line can be held in the elimination state at the time of each game end, and a winning-a-prize line can be displayed only when a display is required.

[Translation done.]

*** NOTICES ***

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2.**** shows the word which can not be translated.

3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the front view of the slot machine concerning the operation gestalt of this invention.

[Drawing 2] It is the important section expansion vertical section side elevation of a slot machine.

[Drawing 3] It is the decomposition perspective diagram of a front panel, an information-display panel, and a middle panel.

[Drawing 4] It is the rear view of an information-display panel.

[Drawing 5] It is the block diagram of the control system of a slot machine.

[Drawing 6] It is the chart showing the indicative data memorized to display data memory.

[Drawing 7] It is drawing showing the example of a display displayed on the information-display panel.

[Drawing 8] It is the functional block diagram of the control system of a slot machine.

[Drawing 9] It is drawing showing the example of a display of the explanatory information displayed on the information-display panel.

[Drawing 10] It is drawing showing the example of a display which displayed one winning-a-prize line and explanatory information.

[Drawing 11] It is drawing showing the example of a display which displayed three winning-a-prize lines and explanatory information.

[Drawing 12] It is drawing showing the example of a display which displayed five winning-a-prize lines and explanatory information.

[Drawing 13] It is drawing showing the example of a display when a rotation reel is rotating.

[Drawing 14] It is drawing showing the example of a display when stopping only a left end rotation reel.

[Drawing 15] It is drawing showing the example of a display in a reach state.

[Drawing 16] It is drawing showing the modification of the example of a display in a reach state.

[Drawing 17] It is drawing showing the modification of the example of a display in a reach state.

[Drawing 18] It is drawing showing the modification of the example of a display in a reach state.

[Drawing 19] It is drawing showing the example of a display in great success.

[Drawing 20] It is drawing showing the modification of the example of a display in great success.

[Drawing 21] It is drawing showing the example of a display in a reach eye.

[Drawing 22] It is the drawing 1 equivalent view concerning the conventional technology.

[Description of Notations]

1 Slot Machine

2 Front Panel

3 Middle Panel

4 Information-Display Panel

4a Matrix display section

4b Segment display

5 Rotation Reel

5a Pattern display

6 Rotation Reel

6a Pattern display
7 Rotation Reel
7a Pattern display
25 EL Element (Electroluminescent Element)
26 Display Drive Circuit
35 Control Unit
36 CPU
37 ROM
38 RAM
M1-M3, M1a Lamp mark

[Translation done.]

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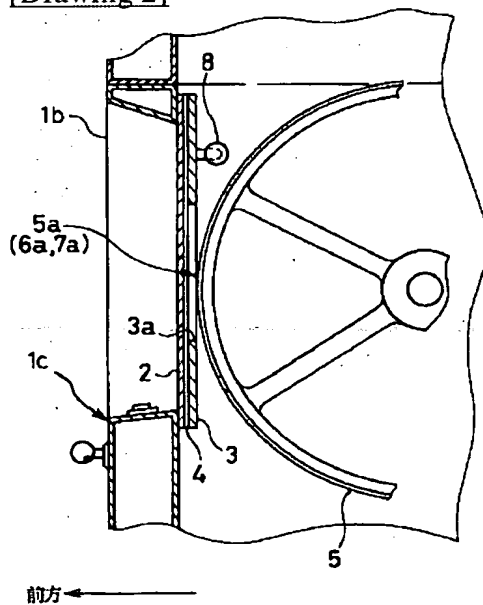
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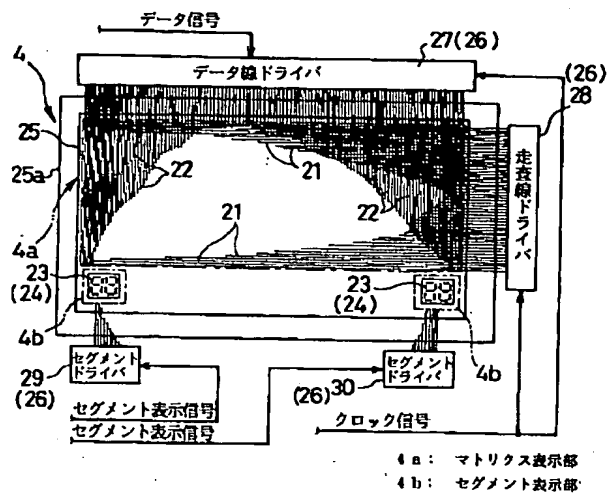
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DRAWINGS

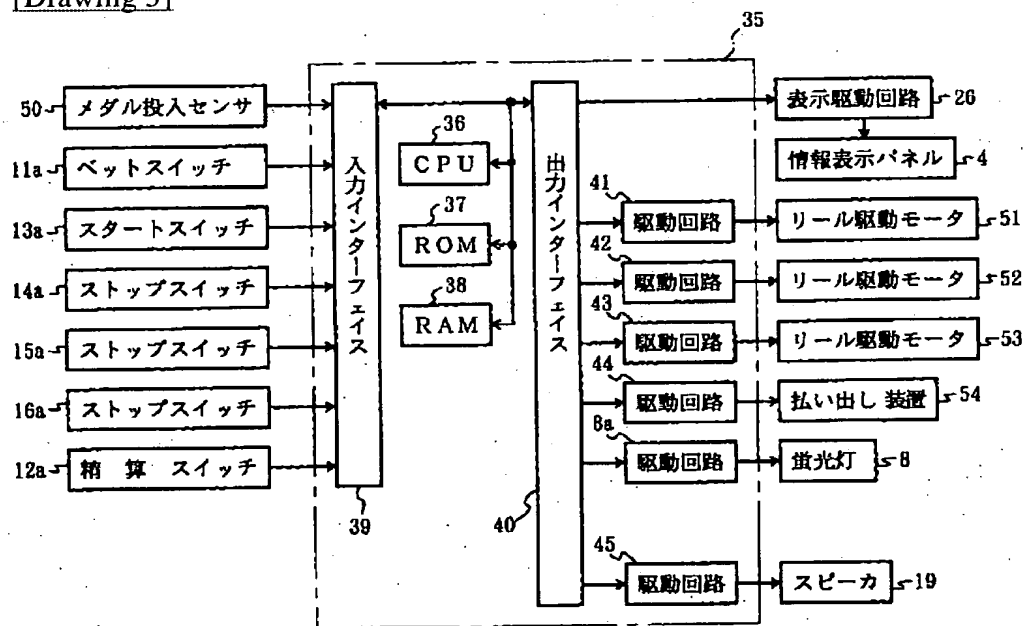
[Drawing 2]



4: 情報表示パネル



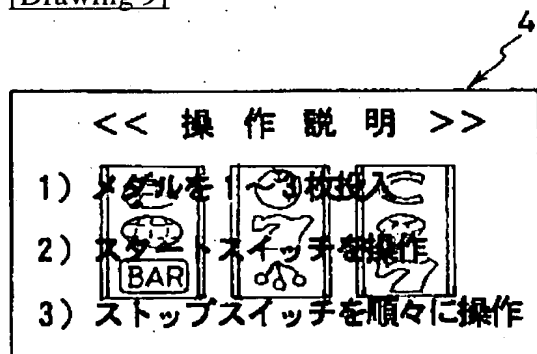
[Drawing 5]



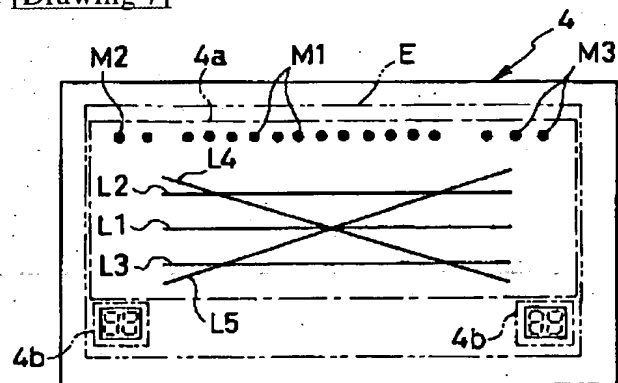
[Drawing 6]

遊技説明表示データ
入賞ライン表示データ
ランプマーク表示データ (表示枠を含む)
数字表示データ (7セグメント形式)
リーチマーク表示データ
大当たりマーク表示データ
アニメーション表示データ
メッセージ表示データ

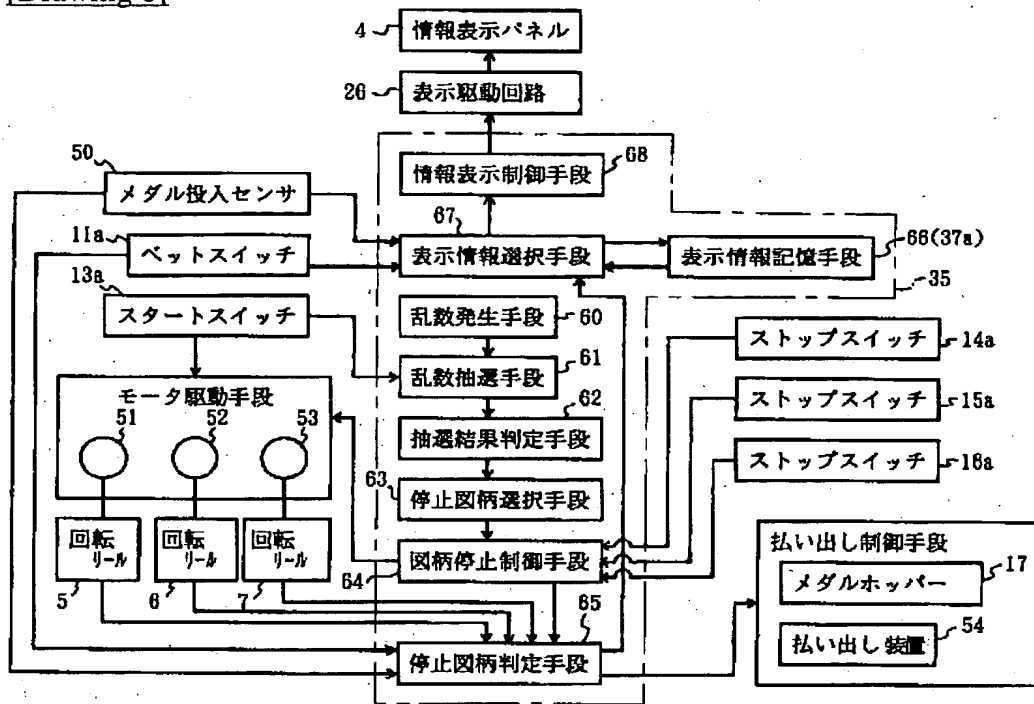
[Drawing 9]



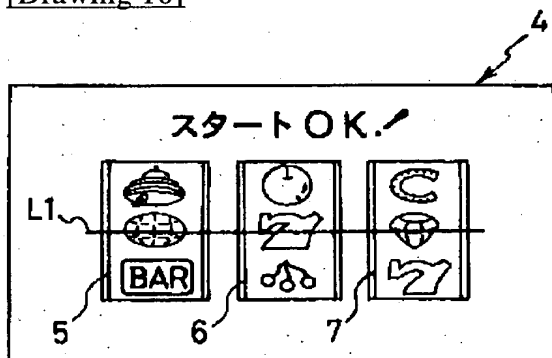
[Drawing 7]



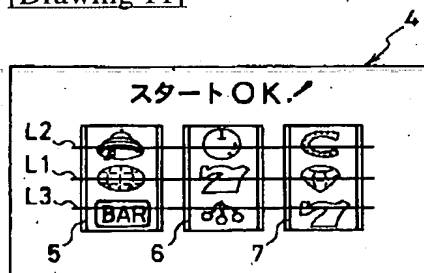
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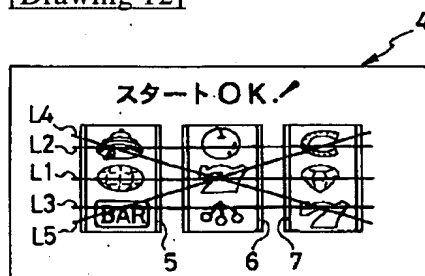
[Drawing 10]



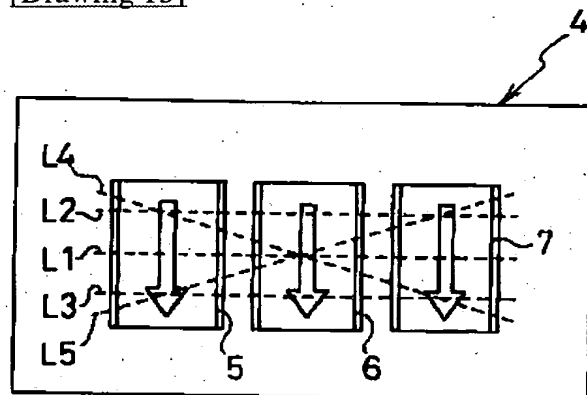
[Drawing 11]



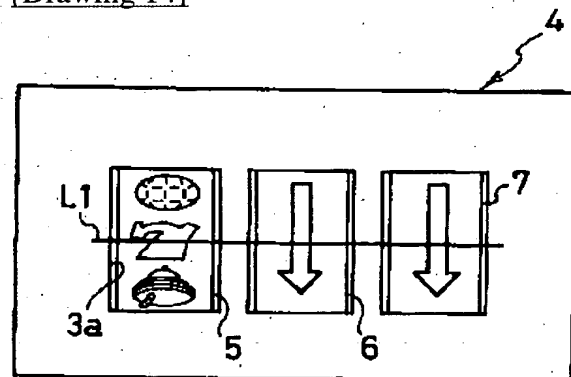
[Drawing 12]



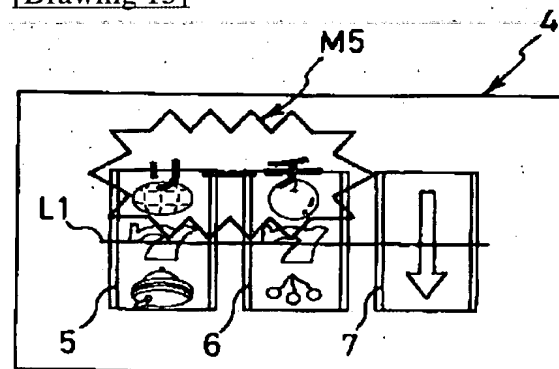
[Drawing 13]



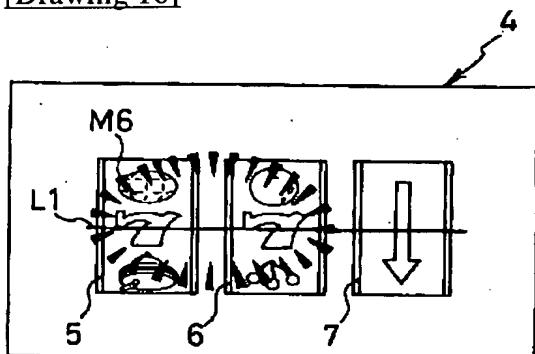
[Drawing 14]



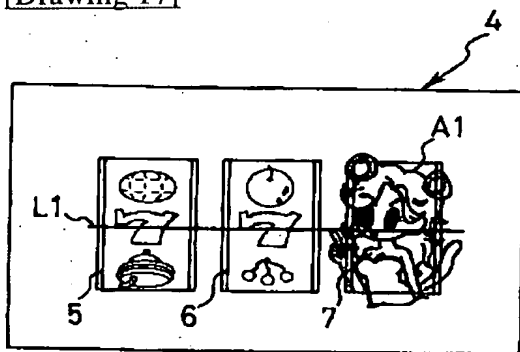
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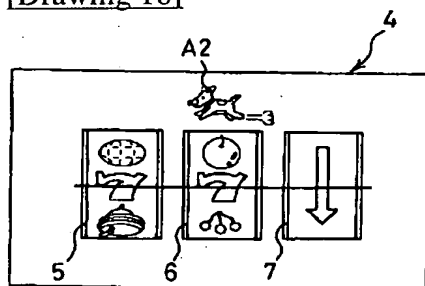
[Drawing 16]



[Drawing 17]



[Drawing 18]



[Drawing 19]

